

WHAT IS CLAIMED IS:

Claim 1. A thread ring gage testing and setting device comprising:

A threaded outer portion for testing a thread ring gage;

A first non-threaded cylindrical portion of smaller diameter than said outer portion located inwardly from said threaded outer portion to test for a thread ring gage undersize effective minor diameter; and

a second non-threaded cylindrical portion of larger diameter than said first non-threaded cylindrical portion located inwardly from said first non-threaded cylindrical portion to test for a thread ring gage over size minor diameter.

Claim 2. A thread ring gage testing device according to claim 1 wherein a groove is provided between first non-threaded cylindrical portion and said second non-threaded cylindrical portion.

Claim 3. A thread ring gage testing device according to claim 1 wherein the outside diameter of said threaded portion varies.

Claim 4. A thread ring gage testing device comprising:

A threaded outer portion at one end for testing a "GO" thread ring gage;

a first non threaded cylindrical portion of smaller diameter than said outer portion located inwardly from said threaded outer portion to test for a thread ring gage undersize effective minor diameter; and

a second non-threaded cylindrical portion of larger diameter than said first non-threaded cylindrical portion located inwardly from said first non-threaded cylindrical portion to test for a thread ring gage over size minor diameter;

a second threaded outer portion located at a second end for testing a "NO GO" thread ring gage;

a third non-threaded cylindrical portion of smaller diameter than said second threaded outer portion to test for a thread ring gage undersize minor diameter; and

a fourth non-threaded cylindrical portion of larger diameter than said third non-threaded cylindrical portion located inwardly from said third non-threaded cylindrical portion to test for a thread ring gage oversize minor diameter.

Claim 5. A thread ring gage testing device according to claim 4 wherein a groove is provided between said first non-threaded cylindrical portion and said second non-threaded cylindrical portion, and between said third non-threaded cylindrical portion and said fourth non-threaded cylindrical portion.

Claim 6. A thread ring gage testing device according to claim 5 wherein the outside diameter of each of said threaded portion varies.

Claim 7. An improved thread ring gage testing device for testing "GO" and "NO GO" thread ring gages comprising:

Longitudinally spaced effective minor diameter cylindrical checking sections located respectively in the approximate center of the respective "GO" and "NO GO" gage portions; longitudinally spaced front threaded sections having pitch diameters formed to the lower limit of the thread ring gage pitch diameter tolerance; and longitudinally spaced back truncated thread sections formed to the upper limit of the thread ring gage pitch diameter tolerance of said gage.

Claim 8. A method of testing a thread ring gage comprising:

Providing a thread ring gage to be tested for tolerance compliance;

Providing a thread setting plug gage;

Adjusting said thread ring gage to fit on a first full threaded section of said plug gage;

Advancing said thread ring gage toward a first cylindrical section of said setting gage;

Determining whether said thread ring gage clears said first cylindrical section of said setting gage, which represents the minimum acceptable effective minor diameter.

Advancing said thread ring gage further toward a second, larger diameter plain cylindrical section;

Determining if said ring gage stops at said second, larger diameter plain cylindrical section; which represents the upper size limit for the minor diameter of said ring gage.

Advancing said thread ring gage in the opposite direction toward a truncated section located at a front portion of said setting gage; and

determining whether or not there is a change in the fit of said ring gage on said truncated section.

Claim 9. A method according to claim 8 including reworking the thread flanks of said ring gage to place said thread flanks within tolerance and rechecking said thread flanks.

Claim 10. A method according to claim 8 including discarding said ring gages which will not clear said first cylindrical effective minor diameter testing section of said thread setting plug gage.

Claim 11. A method according to claim 8 including discarding said ring gages in which said thread ring gage clears said maximum minor diameter testing section of said thread plug gage.

Claim 12. An improved thread ring gage testing device for testing, "GO" and "NO GO" thread ring gages, comprising:

A threaded portion for testing a thread ring gage;

A first non-threaded cylindrical portion of smaller diameter located outwardly from said threaded portion to test for a thread ring gage undersize effective minor diameter; and;

A second non-threaded cylindrical portion of larger diameter than said first non-threaded cylindrical portion located inwardly from said threaded portion to test for a thread ring gage oversize minor diameter.

Claim 13. A thread ring gage testing device according to Claim 12 wherein a starting chamfer is provided on the outward end of first non-threaded cylindrical portion to facilitate assembly with the thread ring gage.

Claim 14. A thread ring gage testing device according to Claim 12 wherein a groove is provided between first non-threaded cylindrical portion and said threaded portion.

Claim 15. A thread ring gage testing device according to claim 12 wherein the outside diameter of said threaded portion varies.

Claim 16. A thread ring gage testing device comprising:

A threaded outer portion at one end for testing a "GO" thread ring gage;

a first non-threaded cylindrical portion of smaller diameter than said outer portion located outwardly from said threaded outer portion to test for a thread ring gage undersize effective minor diameter; and

a second non-threaded cylindrical portion of larger diameter than said first non-threaded cylindrical portion located inwardly from said threaded outer portion to test for a thread ring gage over size minor diameter.

A second threaded outer portion located at a second end for testing a "NO GO" thread ring gage;

A third non-threaded cylindrical portion of smaller diameter than said second threaded outer portion to test for a thread ring gage undersize minor diameter; and a fourth non-threaded cylindrical portion of larger diameter than said third non-threaded cylindrical portion located inwardly from said threaded outer portion to test for an oversize minor diameter.

Claim 17. A thread ring testing device according to Claim 16 wherein a starting chamfer is provided on the outward end of said third non-threaded cylindrical portion to facilitate assembly with the thread ring gage.

Claim 18. A thread ring testing device according to claim 16 wherein a groove is provided between said third non-threaded cylindrical portion and said second threaded portion.

Claim 19. A thread ring gage testing device according to Claim 16 wherein the outside diameter of each of said threaded portion varies.

Claim 20. A thread ring gage testing and setting device comprising:

one end for testing "GO" ring gages,

a second end for testing "NO GO" ring gages,

means to test for a thread ring gage undersize effective minor diameter,

means for testing the pitch diameter of a thread ring gage, and

means to test for a thread ring gage oversize minor diameter.

Claim 21. A thread ring gage testing and setting device according to claim 20

wherein said end for testing "GO" ring gages is substantially identically configured to said end for testing "NO GO" ring gages.

Claim 22. A thread ring gage testing and setting device according to claim 20

wherein said means for testing a thread ring gage undersize effective minor diameter comprises a non-threaded cylindrical portion on each end.

Claim 23. A thread ring gage testing and setting device according to claim 20

wherein said means for testing the pitch diameter of a thread ring gage comprises a threaded portion on each end.

Claim 24. A thread ring gage testing and setting device according to claim 20

wherein said means for testing thread ring gage oversize minor diameter comprises a non-threaded cylindrical portion located at the innermost position of each end, and is of greater diameter than said means for testing thread ring undersize effective minor diameter.